

Education, innovation is the path to U.S. jobs

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Over the last three decades American workers have seen their wages stagnate and their jobs moved overseas. If America is to compete in the integrated global market of the future, it must do so through continuous innovation. We must leverage our unique intellectual capital and entrepreneurial spirit to create the jobs of the future and reinvigorate our middle class.

Job creation in America's future will ultimately depend on our capacity to weave innovation into the broader discussion on public and economic policy. While government cannot guarantee innovation, it can and must educate our workforce and innovators, invest in both fundamental and applied scientific research, and create incentives for entrepreneurs and business to develop groundbreaking products and services.

Maintaining an educated workforce is the first step in guaranteeing our continued economic dominance and the future of the American worker. An educated workforce can more easily adapt to a global marketplace in which demand and competition shift at an unprecedented pace. Government has a responsibility to ensure that all students are given the skills they need to either continue with their educations or move into the workforce.

But focus on education should go far beyond workforce education. Simply retraining displaced workers is not enough. We must also focus on maintaining our lead in educating the world's most prolific and successful innovators. Universities like MIT and Stanford have become cradles for entrepreneurship. We must not lose ground to other countries and must redouble our efforts to educate a new generation of scientists, engineers and mathematicians.

We must also ensure that the world's best and brightest continue to have a home and a future in our country. More than 50 percent of the master's and Ph.D. graduates from U.S. universities in science and engineering are foreign born. Increasingly, employers from Europe, Australia, Canada and even China and India are luring away valuable talent. In 2000, for example, 75 percent of the world's engineers were hired by U.S. employers. Just six years later in 2006, that percentage dropped to 63 percent. We must guarantee that those who excel and wish to remain and create jobs in America do so. This is in our best interest. It's been estimated that half of all Silicon Valley startups have at least one immigrant co-founder. These companies employ tens of thousands of American workers, and contribute billions to our economy.

The federal government must also continue to play a key role in funding and encouraging scientific research. Federal funding for research has two primary impacts on innovation and job creation: It gives American researchers and scientists valuable experience and training which they can later use in the private sector, while building a foundation of knowledge that innovators can draw from as they develop new ideas and products. Government-funded research has helped build America into the economic powerhouse it is today, creating millions of American jobs. Unfortunately, while federal research funding has grown in dollar terms, it has shrunk as a share of our gross domestic product, and is currently half of what it was in 1970. This slump in funding has opened the door for foreign competitors.

While the federal government can play a key role in encouraging innovation and job creation, it ultimately falls to the private sector to keep Americans employed. I've long advocated for tax credits for American companies that are actively engaged in research and development and for green energy development in particular. Recent research suggests that every federal dollar spent in this way spurs two to three dollars in private research and development. As global competition continues to intensify, we must expand research-and-development tax credits with a particular focus on encouraging the development of a green-collar economy.

Finally, innovation-led jobs growth means creating and using intellectual property. A robust intellectual property regime is essential, but the devil is in the details, and too much of our current system impedes innovation rather than encouraging it. Our patent laws have not been updated in more than 50 years, and produce far too much inefficiency and litigation when applied today. Reform is long overdue.

We can create a bright future for American jobs. Investments in education and research and incentives for businesses can help build an economy in which the middle class thrives and prospers. By embracing an economic model closer to that of Silicon Valley, our nation and our workforce can thrive amidst global competition and rapid technological change.